

GOVERNMENT OF INDIA
BUREAU OF EDUCATION

THE ESSENTIALS OF A UNIVERSITY

IN A

GREAT CENTRE OF POPULATION

Being a Reprint of Part II of the
Final Report of the Royal Commission
on University Education in London



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PREFACE.

IN 1910 an important Royal Commission was appointed in England to examine and report on University Education in London. The specific duties of the Commission were: "To enquire into the working of the present organisation of the University of London, and into other facilities for advanced education (general, professional and technical) existing in London for persons of either sex above secondary school age; to consider what provision should exist in the Metropolis for University teaching and research; to make recommendations as to the relations which should in consequence subsist between the University of London, its incorporated Colleges, the Imperial College of Science and Technology, the other Schools of the University, and the various public institutions and bodies concerned; and further to recommend as to any changes of constitution and organisation which appear desirable; regard being had to the facilities for education and research which the Metropolis should afford for specialist and advanced students in connection with the provision existing in other parts of the United Kingdom and of Our Dominions beyond the Seas." The Commission consisted of Lord Haldane (Chairman), Lord Milner, Sir Robert Romer, Sir Robert Morant, Mr. Laurence Currie, Mr. W. S. M'Cormick, Mr. E. B. Sargant and Mrs. Creighton. It accordingly included some of the best known authorities in the United Kingdom and its Report, which was presented in 1913, is a document of great importance. All portions of the Report are valuable, but the portion which is of most general interest is Part II which deals with the essentials of a University in a great centre of population. As it is not always easy for persons interested in education in India to lay their hands on a blue book of this character, it has been thought advisable by the Bureau of Education in India to reprint and distribute copies of the Part of the Report above referred to.

The Report itself is entitled 'The Final Report of the Commissioners of the Royal Commission on University Education in London' and is numbered Cd. 6717 and priced at 2s. It can be obtained through booksellers from the Agents for the sale of Government publications in the United Kingdom.

ANALYSIS OF REPORT.

The Essentials of a University in a Great Centre of Population.

1. THE NATURE AND WORK OF THE UNIVERSITY.

PAGE.

The nature of the provision required in London for university education and research must be considered before constructive proposals can be made. Much of the defective organisation can be traced to confusion of thought about what is essential and non-essential in university education. This confusion of thought is largely due to the success of the University of London as an examining body, and to the encouragement it gave to systematic study when there was no properly organised system of secondary schools, and but imperfect provision of institutions capable of giving a higher education at small cost

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The development of modern universities is due to the growth of large towns and cities, whose wealth renders it easier to collect funds for the foundation of university institutions, and where the demand is chiefly for technical and professional instruction. In most cases they have developed through the gradual evolution of a complete group of Faculties in institutions originally founded for scientific and technological studies

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The Essentials of University Education.

The essentials of university education are : first, that students **should** work in constant association with their fellow students, of their own and other Faculties, and in close contact with their teachers; and that they should pursue their work when young and able to devote their whole time to it

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Secondly, university work should differ in its nature and aim from that of a secondary school, or a technical or a purely professional school. In the secondary school definite tasks are prescribed, knowledge is acquired while the mind is specially receptive, and pupils are mentally and morally trained by the orderly exercise of all their activities; in the technical or professional school theoretical teaching is limited and directed by the application of ascertained facts to practical purposes; in the university knowledge is pursued not only for the sake of information but always with reference to the attainment of truth

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Thirdly, there should be close association of undergraduate and post-graduate work. Proposals which tend to their separation are injurious to both. A hard and fast line between the two is disadvantageous to the undergraduate, and diminishes the number who go on to advanced work. The most distinguished teachers must take their part in undergraduate teaching and their spirit should dominate it all. The main advantage to the student is the personal influence of men of original mind. The main advantage to the teachers is that they select their students for advanced work from a wider range, train them in their own methods, and are stimulated by association with them. Free intercourse with advanced students is inspiring and encouraging to undergraduates. Finally, the influence of the university as a whole upon teachers and students, and upon all departments of work within it is lost if the higher work is separated from the lower

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2. THE CONDITIONS NECESSARY FOR THE REALISATION OF THE FOREGOING ENDS.

First Condition—a previous sound General Education.

A sound general education, giving the power of accurate expression and orderly thought, must be the basis of university work. These intellectual qualifications, together with the formation of moral habits, must be accompanied by a wide range of study at school. This last requirement it was the intention of the original Matriculation examination to ensure. The growth of specialisation has tended to restrict the range of the Matriculation examination, and has altered its purpose so much that the securing of a sound general education has been lost sight of. This appears to render the Matriculation examination unsuitable for school purposes, or as a test of fitness for university study, a conclusion reached by the Scottish University Commissioners many years ago . . .	27
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Many regular day students in Schools of the University are not qualified for registration as undergraduates, and homogeneity in university classes does not exist. This is chiefly due to the inadequate provision for secondary education. Of other causes, one of the most important is the necessity the colleges have been under of providing professional education for students not intending to take a university course	40
The Royal College of Science, not originally founded or maintained as a university institution, is now a School of the University, but the number of students of imperfect general education sent by the Board of Education is a serious source of weakness	41

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- If the University must continue for the present to provide courses of instruction for students not qualified on entrance to read for a degree, these courses must be separate except for lectures from those followed by undergraduates. The Board of Education should support this policy by requiring that all candidates for Royal Scholarships and free studentships should be qualified for registration as university undergraduates. Candidates wishing to enter for these Scholarships and Studentships from technical schools and classes should be provided for by scholarships at other institutions 41
- Insistence on the separation of students is not recommended in the case of courses recognised by the University, but for which it is neither financially nor educationally responsible 42

Third Condition—a University Quarter.

- Constituent Colleges and University Departments should be grouped as near together as possible. There is practically no geographical problem connected with this centralisation of teaching in the case of whole-time day students. The creation of a University quarter would lead to economy in administration, to increased co-operation between different departments of study in the interests of new lines of work, to greater intercourse between students and teachers, and probably to a better public understanding of the University and its work 43

Fourth Condition—University Hostels and Societies.

- The influence of the University over its students should be extended by means of residential hostels in the suburbs supported by special funds but under the general supervision of the University; and by encouraging the formation of University societies. Accommodation should be provided in the central University buildings for the Students' Representative Council, and other University societies, and headquarters for the Officers' Training Corps 46

Fifth Condition—a University Professoriate.

- In order to ensure that the work of the University is of the kind described the University must provide its own teaching, *i.e.*, appoint, pay, pension and dismiss its teachers. The attempt to establish a body of university teachers of first rank by granting the titles of University Professor and University Reader to selected teachers has proved inadequate 48

Sixth Condition—Professorial Control of Teaching and Examination.

- The standard of a teaching university can be maintained only by the rigid exclusion of students unfit for university work, and the existence of a body of highly qualified teachers. The teachers should, under certain safeguards recommended later, have control of the education and examinations of their students 50

Seventh Condition—Financial Control by University.

- The University must have complete financial control of all the institutions within it. This control should be vested in a small Council or Senate acting as the supreme executive body of the University 51

3. THE GOVERNMENT OF THE UNIVERSITY.

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The supreme power of the University should be vested in a widely representative Court. The argument that a large and heterogeneous body would have no power is due to confusion of thought between legislative and executive functions. The Court would have final control over the Statutes, the admission of institutions as Constituent Colleges, and the recognition of others as Schools of the University	52
The Senate should be so constituted as to be able to work out a carefully considered policy for the maintenance and development of university teaching. A large proportion of its members should be nominated by the Crown and not elected by other bodies, nor should it consist as to any large part of teachers. Sudden reversals of policy would be guarded against by the legislative control vested in the Court, and by its power of bringing public opinion to bear upon university policy	53
The Academic Council should be a body of university teachers to which the Senate might delegate some executive functions, and so constituted, from an advisory point of view, as to ensure that the Senate should have before it the opinion of the University Professoriate upon any educational question affecting the University as a whole	54
Much greater freedom of government should be provided for the reconstituted University, and to this end the Statutes should be simple and few, leaving as many things as possible to be settled by regulations and byelaws of the University	55
An organisation applying to the best institutions the principles governing the organisation of universities of the professorial type everywhere else would establish a standard to which institutions for the moment excluded from the University would ultimately be raised. For some institutions meantime a looser form of connexion must be provided and opportunity for graduation offered to the External student	55
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THE ESSENTIALS OF A UNIVERSITY IN A GREAT CENTRE OF POPULATION.

1. THE NATURE AND WORK OF THE UNIVERSITY.

60. We have described what appear to us to be the main defects in the present organisation of the University, and we think it must be clear from what we have said that the University cannot work well so long as the present relations of the Internal and External sides continue as they are now, and also that the form of connexion between the various teaching institutions which were brought within the scope of the University by the Act of 1898 has failed to bring about the unity of purpose and effort which the Gresham Commission hoped might be attained under their scheme. This is partly because their proposals were not adopted. Their intentions were to a considerable extent frustrated by the compromise contained in the Schedule to the Act referred to, though we realise that this compromise represented the utmost that could be achieved at the moment, and that without it no reconstitution of the University could have taken place. Two changes made by the Schedule in the Commissioners' recommendations were especially unfortunate. First, a form of government was adopted which they did not recommend, and which in our opinion was not suitable for the purpose of giving their scheme a fair chance of success; and, secondly, the University was connected, by means of the recognition of individual teachers, with a large number of institutions of a different educational standard from those the Commission intended to include. The failure, however, is only in part due to these causes, for experience has shown that the Gresham Commission were mistaken in believing it was in any way possible to organise a homogeneous university by connecting a number of financially and educationally independent institutions with a central degree-giving body endowed with the limited power and influence possessed by such a university as they proposed.

Summary of
existing de-
fects.

Necessity for considering nature of provision to be made.

61. We now proceed to consider the nature of the provision we think should be made in London for university education and research. This appears to us necessary before we can make constructive proposals for the proper organisation of the means of higher education which already exist, or offer recommendations with regard to the additional provision that is needed. We must inquire what are the ends to be kept in view; what are the essential things which the University of London must do if it is to be the highest kind of educational institution; and, further, what are the conditions necessary for the attainment of these ends.

Confusion of thought as to essentials and non-essentials.

62. Much that is defective in the present organisation of the University of London can be traced ultimately to confusion of thought about what things are essential to university education and what things are non-essential. For example, whatever importance may be attached to examinations, an examining board can never constitute a university; and, again, technical instruction and advanced courses of study may be multiplied indefinitely without providing university education. Of course, any educational institution may be called a university; but, as Dr. Rashdall says, "the name has got to be associated with education of the highest type: to degrade the name of a University is therefore to degrade our highest educational ideal."¹ We do not mean, however, that what we call non-essential things ought not to be provided, but only that they can be done without a university, although some of them can be better done by a university and in as close connexion as possible with the work which only a university can do. The history of the rapid growth of university institutions in this country during the last thirty years would no doubt explain much of the confusion of thought to which we have referred, but a large part of it is due to the history of the University of London itself, to the undoubted success which it achieved as an examining body, and to the beneficial effects of the encouragement it gave to systematic study at a time when there was no properly organised system of secondary schools,

¹ Rashdall, "Universities of Europe in the Middle Ages," Vol. II, Part II, p. 714.

and but a very imperfect provision of institutions capable of giving a higher education at a small cost.

63. The University of London may well be called upon to do many other things besides those which are strictly essential to a university, and what these things are will depend in the main on the needs arising from the present state of education in this country. On the other hand, a wise decision as to what it is essential for the University of London to do must have regard to the demands which have come to be made upon the modern universities in England as the result of their historical development. It is no accident that all the modern universities of England have been established in great centres of population. In these centres are practised to a far greater extent than in rural areas those professions and callings for which the intellectual training given by a university has always been needed. In cities, moreover, many new occupations have developed which require a highly trained intelligence and which would find no scope apart from the manufacturing or commercial activities of the nation. There is, therefore, a demand for well-educated young men and women in the cities, and parents living and working in them come to know of it. But the conditions which have produced the demand have yielded the supply. In the large cities of England the number of students qualified to undergo a university training and desirous of having it, if it can be provided at a moderate cost, has been relatively large, because the provision for secondary education, imperfect as it has been even there, is in many cases less deficient than in the country districts. And, finally, in the cities, where wealth is made and distributed and capital accumulated, it has been found easier to collect the large funds required for the foundation and maintenance of university institutions, in the absence of adequate financial support by the State. Many young men and women whose parents could not have afforded the cost of educating them at Oxford or Cambridge have attended the classes and laboratories of the modern universities, and have found in them either the general training or the special professional equipment which they needed for their work in after life. It has therefore naturally come about that the modern universities are situated in centres of dense population, and that

Development
of modern
English uni-
versities.

they have included technical and professional subjects in their curriculum to a far greater extent than the older universities. These facts must necessarily affect the conception of the proper functions of a city university. Young people of moderate means cannot afford to continue a general education up to the age of 21 or 22 without regard to the nature of their work in life. Modern universities, like those of the Middle Ages, are therefore more obviously schools of preparation for professional life than the Universities of Oxford or Cambridge, though we think inquiry would show that a larger proportion than is sometimes supposed of the students of the older universities have a definite professional purpose in going to them. The demand for higher technical instruction made itself felt throughout the Western world in the second half of the nineteenth century, when the modern universities of this country were coming into existence. It is possible that if the organisation of secondary schools in England had been more advanced, and if there had been, as there was in Germany, a large number of universities with a settled scope and policy, the demand might have been met here as it was in Germany, by institutions distinct from the universities. But in England, the need for a greater knowledge of science, both for itself and in its practical applications, preceded in the main the consciousness of the need for the highest instruction in history, or philosophy, or literature. Speaking generally, it may be said that in nearly every case the development of the modern English universities is the gradual evolution of a complete group of Faculties in institutions originally founded for the pursuit of science and technology. Perhaps it is yet to be proved whether the definite professional outlook of some of the modern English universities is consistent with the wide intellectual training which university education has always been understood to imply. We have no doubt, however, that any branch of knowledge which is sufficiently developed and systematised to be capable of scientific treatment may be taught and studied in such a way as to form part of a university education. The *differentiae* of university education do not consist in the nature of the particular subjects studied, or in their difficulty or abstruseness, but rather in the nature

and aim of the students' work, and in the conditions under which it is done.

The Essentials of University Education.

64. In the first place, it is essential that the regular students of the University should be able to work in intimate and constant association with their fellow students, not only of the same but of different Faculties, and also in close contact with their teachers. The University should be organised on this basis, and should regard it as the ordinary and normal state of things. This is impossible, however, when any considerable proportion of the students are not fitted by their previous training to receive a university education, and therefore do not and cannot take their place in the common life of the university as a community of teachers and students, but, as far as their intellectual education is concerned, continue in a state of pupilage, and receive instruction of much the same kind as at a school, though under conditions of greater individual freedom. It is good that the students should be brought together if only in this way, and Newman, writing in 1852, even went so far as to say:—

Necessity for
intercourse
between
students and
between
students and
teachers,

“ I protest to you, Gentlemen, that if I had to choose between a so-called University, which dispensed with residence and tutorial superintendence, and gave its degrees to any person who passed an examination in a wide range of subjects, and a University which had no professors or examinations at all, but merely brought a number of young men together for three or four years, and then sent them away as the University of Oxford is said to have done some sixty years since, if I were asked which of these two methods was the better discipline of the intellect, . . . which of the two courses was the more successful in training, moulding, enlarging the mind, which sent out men the more fitted for their secular duties, which produced better public men, men of the world, men whose names would descend to posterity, I have no hesitation in giving the

preference to that University which did nothing, over that which exacted of its members an acquaintance with every science under the sun."¹

Nevertheless, this is only one side of the question, and in any case Newman does not refer to the kind of student life that can be reproduced in London. But for this very reason it is the more essential that in such a University as London can have the students and teachers should be brought together in living intercourse in the daily work of the University. From the time the undergraduate enters the University he should find himself a member of a community in which he has his part to play. The teaching and learning should be combined through the active and personal co-operation of teachers and students.

Students
should be
young and
give their
whole time.

65. The main business of a university is the training of its undergraduates, and it is clear that university study will be best pursued if the students, or at any rate a large proportion of them, are of an age when fresh intellectual impressions and habits of mind are easily formed, and if their main purpose during the period of their student life is the training which they hope to receive from the university. A university education is most effective when it is given before the struggles and preoccupations of life in the world have begun. It is a training which ought to make great demands both upon the intellectual energy and upon the time of the student; on his energy, because he is learning the methods of independent work carried on in an inquiring spirit; on his time, because mental habits cannot be formed rapidly, nor if the mind is distracted by other cares and interests, and because, if he is to get more from the instruction of the class-room or laboratory than notes in preparation for an examination, a considerable amount of leisure is essential for independent reading, for common life with fellow students and teachers, and above all for the reflective thought necessary to the rather slow process of assimilation.

Work of
secondary
and technical

66. In the second place, the work done in a university by teachers and students should differ in its nature and aim both

¹ Newman, "Idea of a University," p. 145.

from the work of a secondary school and from that of a technical or a purely professional school. In the secondary school it is expected that a knowledge of many things should be acquired while the mind is specially receptive, and during this stage of education definite tasks are rightly prescribed. But even more important than knowledge is the moral and mental training needed for later success in study or in life, which the pupils gain by the orderly exercise of all their activities demanded in a well arranged school. In the technical or professional school the theoretical teaching is so closely connected with the requirements of the art to be acquired, or the profession or calling for which the pupil desires to prepare himself, that it is limited and directed largely to the application of ascertained facts to practical purposes, or it may be to the preparation for a qualifying examination.

In a university the aim is different, and the whole organisation ought to be adapted to the attainment of the end in view. Knowledge is, of course, the foundation and the medium of all intellectual education, but in a university knowledge should be pursued not merely for the sake of the information to be acquired, but for its own extension and always with reference to the attainment of truth. This alters the whole attitude of the mind. Scientific thought becomes a habit, and almost incidentally intellectual power is developed. Modern universities are called into existence principally by the social need for professional training, and probably most of the students enter the University with a purely utilitarian object; but they should find themselves in a community of workers, devoted to the pursuit of knowledge for its own sake, and tenacious of this ideal against all external pressure of material and social advantages. Academic instruction is primarily purely theoretical and scientific, and yet it is not only the best training for the conduct of life, but also the best, if not the necessary introduction to all those professions and callings of which it may be said that practice and progress are closely connected and constantly reacting on each other. Its effect in relation to the profession or calling which the student has in view is that he brings to it not only the discipline, training, knowledge, and resourcefulness he has acquired, but also the intellectual mastery of the principles

involved which enables him throughout his life to appreciate and apply all advances in science that bear upon it.

Description
of university
teaching.

67. The following description of university teaching given by the inspectors of the Board of Education in a Report of 1910 appears to us to agree in substance with what we have said, and in some respects to express our meaning in greater detail and completeness:—

“We may assume,” they say, “that university teaching is teaching suited to adults; that it is scientific, detached, and impartial in character; that it aims not so much at filling the mind of the student with facts or theories as at calling forth his own individuality, and stimulating him to mental effort; that it accustoms him to the critical study of the leading authorities, with, perhaps, occasional references to first-hand sources of information, and that it implants in his mind a standard of thoroughness, and gives him a sense of the difficulty as well as of the value of truth. The student so trained learns to distinguish between what may fairly be called matter of fact, and what is certainly mere matter of opinion, between the white light and the coloured. He becomes accustomed to distinguish issues, and to look at separate questions each on its own merits and without an eye to their bearing on some cherished theory. He learns to state fairly, and even sympathetically, the position of those to whose practical conclusions he is most stoutly opposed. He becomes able to examine a suggested idea, and see what comes of it, before accepting it or rejecting it. Finally, without necessarily becoming an original student, he gains an insight into the conditions under which original research is carried on. He is able to weigh evidence, to follow and criticise argument, and put his own value on authorities.”¹

¹ Board of Education. Special Report of H.M. Inspectors on Workers' Educational Association classes (1910). Quoted in Statement submitted by the Governors of the London School of Economics. *Appx. to 3rd Report*, p. 94.

68. In the third place, it is essential that the higher work of the University should be closely associated with the undergraduate work. Need for associating undergraduate and post-graduate work. Proposals which tend to their separation take two forms. On the one hand, it is proposed that the bulk of the undergraduates should be distributed over a large number of centres, most of which would be limited to instruction in one or two Faculties only, while the teaching of the University Professors in the more central colleges should be organised with primary reference to the needs of the post-graduate or advanced student, and should provide for undergraduates, if at all, only as a secondary and entirely subordinate consideration. On the other hand, there is the proposal of the Council for External Students, to which we have already referred, for the creation of a series of institutes for research and higher learning to which the best students would pass from the colleges and other institutions where they had received their undergraduate training. Neither of these proposals commends itself to us as a desirable policy, and both of them appear to invite a half-conscious admission that the great majority of the students who at present take the bachelor's degree of London University do not receive a university education at all. But this is the greatest evil which results from the present organisation of the University, and the one which it is most important to remove in the interests of higher education in London.

No one suggests that research should be divorced from teaching, but for various reasons proposals are made for organising the higher and more advanced work of the University separately from the undergraduate work in a way which must tend in this direction. We agree with the view expressed in the Report of the Professorial Board of University College that "any hard and fast line between undergraduate and post-graduate work must be artificial, must be to the disadvantage of the undergraduate, and must tend to diminish the supply of students who undertake post-graduate and research work."¹ Even in those cases where it is necessary to provide for research departments which, because of their specialised work, are unsuited for the admission of under-

¹ *Appx. to 3rd Report, Appx. VII, p. 411.*

graduates, they will be stronger and more effective if they are in close proximity to departments where undergraduate work is done.

Advantage
to under-
graduates of
professional
teaching.

69. Teaching will, of course, predominate in the earlier work, and research will predominate in the advanced work; but it is in the best interests of the University that the most distinguished of its professors should take part in the teaching of the undergraduates from the beginning of their university career. It is only by coming into contact with the junior students that a teacher can direct their minds to his own conception of his subject, and train them in his own methods, and hence obtain the double advantage of selecting the best men for research, and getting the best work out of them. Again, it is the personal influence of the man doing original work in his subject which inspires belief in it, awakens enthusiasm, gains disciples. His personality is the selective power by which those who are fittest for his special work are voluntarily enlisted in its service, and his individual influence is reproduced and extended by the spirit which actuates his staff. Neither is it the few alone who gain; all honest students gain inestimably from association with teachers who show them something of the working of the thought of independent and original minds. "Anyone," says Helmholtz, "who has once come into contact with one or more men of the first rank must have had his whole mental standard altered for the rest of his life." Lectures have not lost their use, and books can never fully take the place of the living spoken word. Still less can they take the place of the more intimate teaching in laboratory and seminar, which ought not to be beyond the range of the ordinary course of a university education, and in which the student learns, not only conclusions and the reasons supporting them, all of which he might get from books, but the actual process of developing thought, the working of a highly trained and original mind.

Advantage
to teachers of
retaining
the same
students for
higher work.

70. If it is thus to be desired that the highest university teachers should take their part in undergraduate work, and that their spirit should dominate it all, it follows for the same reasons that they should not be deprived of the best of their students when they reach the stage of post-graduate work.

This work should not be separated from the rest of the work of the University, and conducted by different teachers in separate institutions. As far as the teacher is concerned it is necessary that he should have post-graduate students under him. He must be doing original work himself, and he often obtains material assistance from the co-operation of advanced students. Their very difficulties are full of suggestion, and their faith and enthusiasm are a perennial source of refreshment and strength. He escapes the flagging spirit and the moods of lethargy which are apt to overtake the solitary worker. There can be no question of a higher class of teachers than the professors of the University, or the whole position of the University will be degraded. On the other hand, a university teacher of the highest rank will naturally desire to have as his post-graduate students those students whom he has already begun to train in his own methods, though his laboratory or seminar will, of course, be open to students who come from other universities, and to some perhaps who come from no university at all, as well as to some who come from other teachers of the University of London. There must be a great deal of give and take, and students may often gain by studying under more than one teacher of the same subject; but that is an entirely different thing from separating the higher work from the lower. We do not think it would be possible to get the best men for University Professorships if they were in any way restricted from doing the highest work, or prevented from spreading their net wide to catch the best students.

71. It is also a great disadvantage to the undergraduate students of the University that post-graduate students should be removed to separate institutions. They ought to be in constant contact with those who are doing more advanced work than themselves, and who are not too far beyond them, but stimulate and encourage them by the familiar presence of an attainable ideal.

Advantage
of associating
junior with
advanced
students.

72. Then, again, there is the influence of the University as a whole upon all departments of work within it. The advance of knowledge is not along single lines of special research alone. The sciences have all been developed out of

Influence of
the Uni-
versity as a
whole.

the ordinary knowledge of common experience by the gradual substitution of completeness and accuracy for vagueness. Research is often spoken of as if all of it was the highest kind of work, and it is often assumed that a student's education has reached its goal when he is said to be doing original research, and that if he attains to this it does not matter what his previous training has been. But, in fact, there are all degrees of value in research, and much that is dignified by the name, however laborious and praiseworthy it may be, is directed to narrow issues and problems of quite secondary importance because the student lacks a broad and liberal education and a wider point of view. Even men of great eminence in their own department of knowledge have been known to apply the conceptions which are valid within the range of their particular science to problems which can never be solved by means of them. All the sciences are fragmentary when viewed in relation to the whole range of experience. They pass over into each other; they require to be supplemented, corrected, extended; even their most fundamental presuppositions may have to be reconsidered in the light of discoveries in other fields of investigation, and as the result of the re-thinking and re-conceiving of existing knowledge. It is impossible for any but the greatest minds to gain mastery over more than a small part of human knowledge; but in addition to the mastery of a part it is possible to acquire a general conception of the whole, a sympathetic understanding of the ideas which guide the work of other men, an almost instinctive sense of the bearing of other branches of knowledge on one's own special work, and a just appreciation of its possibilities and limitations. All these ends are best achieved by a university which takes the whole realm of human thought and knowledge as its own, associates its teachers and students together as closely as the conditions of their work will allow, and so forms a community with one spirit and one aim, which in course of time will develop an individual character and create traditions that will affect the minds of all who come within its influence.

Special research institutes should not be main-

73. The Medical Committee of the British Science Guild supported the proposal for the establishment by the University of central laboratories of post-graduate character as a further

provision for the post-graduate worker and teacher,—research institutes such as the Collège de France, the Instituts Solvay of Brussels, and the Forschungsinstitut of Berlin, of which, they say, the only example in London is the Physiological Laboratory of the University. It will be evident from what we have already said that we think this policy would be full of danger to the development of the University. The recent movements in Berlin and Leipzig for the foundation of research institutes independent of the university, though indirectly connected with it through the investigators in the institutes being in some cases professors in the university, offer no true analogy for the proposal to set up in London under university control and with university funds institutes devoted solely to research. It has yet to be seen whether the German experiment will be successful, but so far as it has at present developed, the intention seems to be partly to provide for special investigations of a longer and more elaborate kind than those which can be undertaken by university students or teachers, and partly to undertake work in branches of knowledge which fall outside the ordinary scope of the university or technical high school as organised in Germany. The Kaiser-Wilhelms-Gesellschaft is an association of rich men and societies who have contributed large sums for the encouragement of research in the widest sense, either in connexion with or independently of existing academies and scientific institutes throughout the kingdom of Prussia. One of its aims is to prevent the exploitation of research in the interests of individual capitalists; another is to supplement existing agencies for investigation and to undertake work for which no provision has yet been made. It has, for instance, co-operated with the Chemische Reichsanstalt to build a great Institute of Chemistry at Dahlem, near Berlin, to be called the "Kaiser-Wilhelms-Institut"; it has purchased and taken over the maintenance of the biological station at Rovigno on the Mediterranean, which was founded by the late Dr. Hermes; it has made grants-in-aid to various investigators—one of them an archæologist; and it has set aside a sum of money for the production of facsimiles of Egyptian sculptures likely to be of use in the study of ethnology. Like the Carnegie Institution of Washington, it is an independent trust

tained out of
general
university
funds.

for the advancement of knowledge, and has no relation to our present problem.

To set up specialist research institutes at this stage within the University would be an attempt to build the steeple before the church is roofed. Nor do the Collège de France and the Instituts Solvay afford a better model for the guidance of those who are concerned with university organisation. The French and the Belgian institutions referred to are independent of the Universities of Paris and Brussels* and are more analogous to the laboratories of our own Royal Institution, or Lister Institute, than to the Physiological Laboratory at present established in the University buildings. In a great city like London, we believe there is room, as there is in Berlin and in Leipzig, for important independent research institutes which may incidentally offer advanced students of the London and other Universities opportunities for making investigations of a special kind; but institutes of this type, however necessary in themselves, do not, and in our view should not, form a part of the university organisation; and certainly do not justify the establishment by the University itself of institutes at a distance from, and without close connexion with, its other activities. Indeed, so far as research is concerned, no beneficial results have accrued from Statute 74, which permits the University to recognise "any institution founded for the promotion of science or learning" within the University area "as a School of the University for the purpose of research or the cultivation of any special branch of science or learning." It is obvious that the University can exercise no influence over the conduct of a purely research centre such as the Lister Institute, or over a special professional school like that of the Pharmaceutical Society, both independent in every real sense of the University, and with purposes of their own which are not university purposes. We trust that students or graduates of the University may be found within their walls, but they will reap no advantage from a formal connexion of the institutions with the University. We believe

*The only connexion of the Collège de France with the Sorbonne is that it is housed in the same block of buildings. The connexion of the three Instituts Solvay with the University of Brussels is a nominal affiliation which means less than the recognition of the Lister Institute as a School of the University.

that what the University requires from institutions such as those named, is the same kind of convenience of access and general co-operation in the interests of learning that it looks for from the national museums, or the collections of learned societies. Formal bonds of connexion would do nothing to assist the teachers and students of the University in making the full use they will and ought to make of the unrivalled opportunities for special study these institutions afford.

74. On the other hand, we are strongly of opinion that provision should be made by the University itself for the publication of the investigations which are carried out under its auspices by its teachers and its senior students. The benefit which a university can confer on the world of learning depends largely upon the influence that it has upon other universities and learned bodies. Shorter scientific contributions are perhaps best made known by publication in the recognised periodicals devoted to the subjects to which they relate, but the publication of longer original works cannot be made upon a commercial basis, and unless a university can assist its investigators by bringing their labours to the notice of other workers in the same field, not only will its own students and teachers be discouraged, but the advance of knowledge, which it is one of the chief purposes of a university to achieve, will be delayed because other workers will be ignorant of what has already been done or attempted. The establishment of a University Press under the full control of the University itself is therefore, in our opinion, an essential function of the University.

A University Press.

University Education for Evening Students.

75. It is not impossible for students who unfortunately cannot give their whole time to study to receive a real university education, provided sufficient care is taken to give them the best teachers and suitable conditions for their work. We have received a great deal of evidence as to the enthusiasm and admirable work of many evening students, and we think that in a city of the size of London there is a number of men and women rather older than the average student, with a keen desire for learning whose circumstances prevent them from

Necessity for some evening instruction of highest university standard.

devoting their whole day to study, and for whose needs the University should make provision. They will need great patience and strength of purpose, if they are to receive from evening study the same kind of training that the full-time student receives. At the best they will lose something which those who are more fortunate will get. But while they may suffer from the pressure of material cares, we are assured that they gain immensely from their zeal, their experience of life, and the maturity of their intellectual development. The number of students may be relatively small who have the necessary physical and intellectual vigour, and who would be prepared to spend the longer time that we think would generally be found necessary to complete (in the evening) the full course of study for a first degree. Nevertheless, we believe the attempt to give them an education as good as that offered by the University to its day students is well worth making. It is an experiment that has never yet been carried out consistently, and one that must prove more expensive than provision for work of the same character in the daytime, but we think the University of the metropolis should undertake it. The chief teachers engaged in this work should do no class teaching in the daytime; they should have the same qualifications as the other professors of the University; like all university teachers they should be appointed by the University; they should receive the same salaries, and have the use of libraries and laboratories as well equipped as those available for day teaching. It is of the greatest importance that the laboratories, and especially those for more advanced work, should be reserved exclusively for evening students, so that apparatus they have set up should not be shifted or disarranged to make room for day students. This arrangement will be relatively more costly than day instruction, for the laboratories and apparatus will for the most part not be available for use in the daytime; but if evening students are really to be given the same advantages as those provided for the ordinary day students, it is necessary. In the Faculty of Economics and in some legal subjects, courses of the kind we mean, and given in the way we contemplate, are already provided by University College, King's College, and the School of Economics. Similar provision should be made

in an equally convenient situation for degree courses in the Faculties of Arts and Science. We hesitate to recommend the establishment by the University of an evening centre for technology, at any rate until after the success of the instruction in the other Faculties has been assured; partly because of the great expense that would be involved, but mainly because we are of opinion that a full course in engineering, of the kind which the University ought alone to provide, could not be given in the evening only, unless it were extended over so many years that students would probably be unwilling to undertake it.

These difficulties are less serious, however, in the Faculties of Arts and Science, and we shall make recommendations later as to the establishment of a College of the University in the Faculties of Arts and Science for evening students only (*see* paragraphs 144-151). The great centres of day instruction such as University, King's, and the Imperial Colleges should not attempt to offer undergraduate courses in the evening for a first degree in these Faculties, though for the present it may be desirable to continue the existing arrangements in the Faculties of Economics and Laws.

Technology.

76. There is nothing in the functions of a university as we have described them which ought to exclude technological instruction; but it must not be of a narrow utilitarian kind. If only those technological problems were studied which appeared likely to involve an immediate financial or material advantage, the point of view from which the inquiry, however recondite, was made would destroy the university spirit, and would not in fact be likely to open up the path to their solution. The difficulties that present themselves to manufacturers or merchants seldom afford an indication of the true nature of the problems to be solved. They are generally secondary in their nature, and a direct attack on them is likely to be as empirical as the symptomatic treatment of disease. It is the recognition of this truth which has led to the paradoxical assertion that the value of any study varies inversely with its usefulness; but in fact the value of a parti-

Technology
should be
included
in the
University.

cular study arises not out of the matter which is treated, but out of the manner in which it is handled. Even from the point of view of technology we think Sir Walter Raleigh is right when he says in his Address on the Meaning of a University: "The standard of utility is a false and mischievous standard, invented by short-sighted greed, and certain, if it is accepted, to paralyse and kill the University that accepts it. It cultivates the branches for profit, and neglects the root. You cannot apply the test of utility to knowledge that is living and growing. The use of knowledge is often the application to practical ends of knowledge that has ceased to grow. It is the timber, not the growing tree, which serves for ships. Some of the conclusions of scientific study can be utilised, but who shall say which of them? How can we be free to ask questions of the world, if we are told that we must ask no question the answer of which is not certain to be immediately profitable to us? We ask the question because we do not know the answer. The answer, if we are so fortunate as to find it, may be disconcerting and strange. Then we must ask more questions."¹

University
attitude not
utilitarian
yet useful to
industries.

77. This view of the attitude which a university should assume towards utility does not prevent it from being useful to the industries, indeed it will be more useful to them if this is its spirit than if it merely thinks of those strictly trade purposes which it is the necessary and useful end of polytechnics and technical institutes to promote. The Governing Body of the Imperial College have represented to us strongly their fears that the academic temper of the University is likely to hamper their efforts to "deal with the higher instruction for industrial purposes especially in relation to industry"—a duty expressly laid upon them by the Charter of their incorporation. We think, however, that what they fear is rather the imposition of particular procedures upon them by the University, acting under the pressure of other faculties, and that, provided freedom of initiation can be secured to them, they would endorse the protest against a narrow utilitarianism. We are convinced that the spirit of their professors

¹ Sir Walter Raleigh, "The Meaning of a University," 1911. p. 11.

and of their teaching is the same as that which imbues a university, and that they are only asking to be allowed to express it in their own way.

78. Both the history of educational organisation and a right view of the methods of university work appear to us to justify the inclusion of professional and technological studies within the University; and this being so, it is neither possible nor desirable to withhold the advantage of the highly specialised work being done in the University laboratories and classrooms from those already engaged in a profession or calling, who need to supplement their knowledge in particular directions. Although it may be true that the first and most urgent call upon the University is that made by its regular students, it could not hope to retain the sympathy and support of the community to which it must look for material as well as moral assistance, if it refused help and guidance to men and women who, though the days of regular study were past, wished to keep abreast with the demands made upon them by their professions. A university in a great centre of population must be prepared to provide advanced instruction of a specialised kind for all classes of the community who are willing to receive it. A great deal of this work must be done in the evening, and for this purpose the great day colleges of the University should be used.

Specialised
instruction
for occa-
sional
students.

University Classes for Working Men and Women.

79. There is, however, one class of adult student for whom the University should, in our opinion, make further provision than that just indicated, though they will also, no doubt, benefit by some of the evening courses given in the day colleges. We refer to the large and increasing body of workers whose needs and desires have found expression through the Workers' Educational Association. We have been greatly impressed by the remarkable progress already made by that Association under the inspiring guidance of its general secretary in arranging classes of a university standard for working men and women. We are even more impressed by the true spirit of learning, the earnest desire for knowledge, and the tenacity of purpose which have been shown by the students.

Centre for
Workers'
Educational
Association.

These men and women desire knowledge, not diplomas or degrees, and we think that no university, and above all no city university, would justify its existence that did not do its utmost to help and encourage work of this kind. Such work is not essential to a university in the narrower sense of being a condition of its existence, but it is essential in the broader view, which lays upon a great seat of learning the duty of using its talents to the utmost, and offering its treasures freely to all who can benefit by them and sincerely desire to do so. In the branches of study which have proved most attractive to these students the benefit is reciprocal. The intimate personal knowledge the workers have of many important social and economic problems throws a light upon the history of industry, and on the relation of Capital to Labour, which is of inestimable value to the teacher and investigator. Systematic inquiries have been conducted that would have been impossible without the active and intelligent assistance of the workers, and we understand that some of the students themselves have made independent investigations under the guidance of their tutors. We think, therefore, that the University of London should be so organised and endowed as to enable it to establish and maintain a special centre to be identified with the work done in conjunction with the Workers' Educational Association, and to serve the social as well as the intellectual needs of its students. In a later Part of our Report (*see* paragraph 411) we shall explain how we think this can be done. But we must point out here that although we think this special provision should be made by the University itself, the University will not be in the position to undertake this important work successfully unless it has previously obtained the means of providing satisfactorily for its own undergraduate and graduate students, and for its own professoriate. Unless the University has a distinguished and properly paid body of teachers who will constantly be sending out able and well-trained young graduates, the supply of teachers necessary for the conduct of the rapidly increasing number of classes for working men and women will fail at its source. The stronger the University can be made for its primary duties, the better it will be able to help forward this new and hopeful movement.

Degrees and Examinations.

80. The power of granting degrees is one of the chief characteristics of all universities, although it is not the real end of their existence. The great majority of the students enter the university only for a few years, and graduation is for them the culmination of their university career. In earlier times the students of a Faculty were apprentices to a profession, and when they became masters they entered the rank of teachers and were required to teach for a time. This rarely happens now; the teachers are a specially appointed class, and the bulk of the students leave the university immediately after graduation. The university fulfils its end for the nation and the world partly by the advancement of science and learning, but partly also by sending out into many of the different paths of life a constant stream of men and women who have been trained by its teaching and influenced by its life.

Granting of
degrees inci-
dental to a
university.

81. The object of going to a university is, or ought to be, to obtain a university education; and the degree ought to signify that this end has been attained. It is required for practical purposes as the sign and guarantee of a university education. At the present day the pass degree is the public certificate of the university that the student has complied with such conditions as may be prescribed with regard to residence, instruction and course of study, and has satisfied the tests which the university imposes in order to ascertain that he has profited to a reasonable extent by the opportunity he has had. The honours degrees certify that he has acquitted himself with greater or less distinction, and the higher degrees that he has pursued a further course of study and satisfied additional tests. Degrees, however, are not only certificates, they are also distinctions; and the hope of academic distinction excites emulation and rivalry which, although not the highest motives, are powerful incentives to sustained effort and self-denying exertion not easily dispensed with.

Signification
of a degree.

82. It is obvious that the tests imposed ought to be designed for the purpose of affording sufficient evidence that the object has been attained which is certified by the degree. Two things, then, must be kept in view in fixing what the

Examina-
tions as a test
of university
education.

tests should be. First, they should be fair tests affording sufficient evidence of what they are intended to prove; and, secondly, they should not interfere with or injuriously affect, but should, if possible, assist the education which it is the real end of the university to give. In English universities the main test employed is that of examination. We must therefore consider the question how far that test affords sufficient evidence of a university education (*i*) when conducted solely by external examiners, and (*ii*) when conducted largely by the teachers of the students examined; and how far in each case it is injurious to the real education of the student or can be made to assist its ends.

Defects of a
purely ex-
ternal exami-
nation.

83. On the External side of the University of London, which continues the system of the old University, the only test imposed is that of examination, and the only condition for securing the education of the student is the lapse of time between the examinations, during which he may apply himself to study on the lines of a prescribed syllabus, with or without instruction. Such examinations are necessarily conducted by examiners who, except by accident, have had nothing to do with the instruction of the candidates, and the questions must be so framed as to be fair to candidates who have been entirely dependent upon private study. What, then, does the examination test? All that is provided is a syllabus, and all that the examination can profess to test is a knowledge, at the time of the examination, of the subjects prescribed by the syllabus, because the candidate may get his knowledge in any way he likes. He may work hard and well, and he may have the best instruction, but the test of the examination affords no sufficient evidence of this. As far as it tests his knowledge or information alone, it can obtain evidence only of memory, and not even of lasting memory, because, in the case of some subjects at any rate, cramming is the most successful way of preparing for the test, and it is notorious that a good coach can enable a candidate even to dispense with cramming more than fragments of a subject prescribed. In some subjects the questions are more in the nature of tests of capacity than of memory, but, as Mr. Hartog points out, in order to afford evidence of capacity the

standard of marking in the case of these subjects would need to be much higher than in the case of tests of memory. Whether it is reasonable or not to accept 30 per cent. of the full marks when you are testing memory, it is clear that if the question is intended to test a candidate's capacity to do a thing the percentage of marks required ought to be much higher. "A boy who can only do right five addition sums out of ten cannot add. A person who reads a thermometer accurately five times and inaccurately five times cannot read a thermometer. A person who understands nine-tenths of the words in an easy passage in a foreign language, with or without the use of a dictionary, but is at sea in regard to the meaning as a whole, has not brought his knowledge of the language to a useful point."¹ No doubt the successful candidates for External examinations have to work hard. We do not suggest that the examinations are easy to pass; the large percentage of failures is sufficient evidence that they are not. But the large number of failures also proves that a wide syllabus of prescribed subjects, with an External examination as the test of the information acquired, inevitably tends to un-educational methods of work, and that far too many of the candidates are only "having a shot at it," because there is a fair chance of scraping through a rather indiscriminating test with a minimum amount of knowledge and a turn of good luck. It is not an answer to say, as one witness said,² that the intellect is strengthened by overcoming difficulties; that if a man has the resolution and strength of purpose to attain a standard of knowledge by himself, equal to that attained by another man with assistance, the former is the stronger man; that if he has mastered great books by the greatest men he will have come into communication with bigger minds than any who are likely to be his teachers, and that his teachers can do him good only by assisting him more readily to come into communication with those bigger minds. Even then we think the intellectual cultivation is likely to be one-sided and defective; but there is a fallacy in the assumption that self-education is achieved by any but the very exceptional

¹ Hartog, "Examinations in their bearing on National Efficiency," 1911, p. 16.

² *Appx. to 3rd Report*, Moulton, Qs. 10,091, 10,105.

man, or is induced by the examination. No doubt the degree is an incentive to work, and there are very few who can dispense with some incentive; but the External examination does not test the quality of the work. It can be more effectively and more easily prepared for by means that are not really educational. It is in spite of, and not by means of, the so-called principle of guidance by test, if the great majority of the candidates do not belong to the class which Newman describes as "those earnest but ill-used persons, who are forced to load their minds with a score of subjects against an examination, who have too much on their hands to indulge themselves in thinking or investigation, who devour premiss and conclusion together with indiscriminate greediness, who hold whole sciences on faith, and commit demonstrations to memory, and who too often, as might be expected, when their period of education is passed, throw up all they have learned in disgust, having gained nothing really by their anxious labours, except perhaps the habit of application."¹

Too wide a syllabus has effect of an external examination.

84. Even in the case of a true university where the students have had the opportunity of obtaining a university education, a purely external examination conducted by examiners who have nothing to go upon but the syllabus prescribed for the course of instruction, can afford evidence of nothing more than we have already described. But the failure will be greater; because the object is not to test the knowledge of candidates at the time of the examination, but whether students have profited by the opportunity they have had of obtaining a university education. Hardly anyone now defends a purely external examination as a proper test of university teaching. The University of New Zealand, one of the last of the universities to retain this form of examination, adopted under the influence of the old University of London, is at present agitating for reform. But even when an examination is far from being purely external, and is largely conducted by the teachers, the method of teaching a subject may be perverted, and the educational value of studying it may be lost, if it is based upon a syllabus too wide for any student to overtake in the time allotted. "In the preparation for the exami-

¹ Newman, "Idea of a University," p. 149.

nation, instead of facts, the memory is charged with generalised formulas, with expressions and solutions which are derived ready-made from the tutor. The first principle of philosophical, nay of intellectual, training, *viz.*, that all should be educed from the pupil's own mind, is here inverted; all is poured into him by his teacher. The teacher does as much, and the pupil as little, as possible. The utmost that the student can acquire from the system is that he has learned to write in the newest style of thought, and to manipulate the phrases of the last popular treatise."¹

85. We are convinced that both a detailed syllabus and an external examination are inconsistent with the true interests of university education, injurious to the students, degrading to the teachers, and ineffective for the attainment of the ends they are supposed to promote. The insistence on a system of external examinations is always based upon want of faith in the teachers. Even the so-called Internal examinations of the University of London are practically external, because of the large number of institutions involved, and the demands of the common syllabus; and the syllabus is a device to maintain a standard among institutions which are not all of university rank. The effect upon the students and the teachers is disastrous. The students have the ordeal of the examination hanging over them and must prepare themselves for it or fail to get the degree. Thus the degree comes first and the education a bad second. They cannot help thinking of what will pay; they lose theoretic interest in the subjects of study, and with it the freedom, the thought, the reflection, the spirit of inquiry which are the atmosphere of university work. They cannot pursue knowledge both for its own sake and also for the sake of passing the test of an examination. And the teachers' powers are restricted by the syllabus; their freedom in dealing with their subject in their own way is limited; and they must either direct their teaching to preparation for an examination which is for each of them practically external, or else lose the interest and attention of their students. Indeed, the best teachers are apt to lose their students' attention either way, for if they teach unreservedly by

Effects of
external ex-
aminations
upon
teachers and
students.

¹ Mark Pattison, "Philosophy at Oxford," "Mind," Vol. I, 1876, p. 93.

Examina-
tions should
not be the
sole test for
a degree.

the syllabus their own interest must flag, and consequently that of their hearers also. We shall make recommendations which will dispense with the necessity of the syllabus, by ensuring the appointment of teachers who can be trusted with the charge of university education. Teachers who can be trusted with this far more important and responsible duty can also be trusted with the conduct of examinations, in so far as they are accepted as proper and necessary tests for the degrees of the University. But examinations, even when conducted by the teachers of the University, and based upon the instruction given by them, ought not to be the only tests for the degree. It is not right that the work of years should be judged by the answers given to examination papers in a few hours. It cannot be fairly tested in this way. However conducted, such examinations are an insufficient and inconclusive test of the attainment of a university education; and when account is taken of individual idiosyncracies and the special qualities which examinations favour, and when allowances are made for the accidents which inevitably attend such limited and occasional tests, it appears to us only fair that due weight should be given to the whole record of the students' work in the University. If the academic freedom of the professors and the students is to be maintained—if scope for individual initiative is to be allowed to the professors, and the students are to profit to the full by their instruction—it is absolutely necessary that, subject to proper safeguards, the degrees of the University should practically be the certificates given by the professors themselves, and that the students should have entire confidence that they may trust their academic fate to honest work under their instruction and direction. There is no difficulty whatever in the University providing for such control, regulation, and publicity as will be an adequate guarantee of impartiality, and of such a measure of uniformity as may be considered desirable.

Practical ne-
cessity for
recognising
work of lower
standard.

86. We have described in brief the things which, in our opinion, a university must do—the things which it is essential should be done if there is to be a university at all, and also those things which the University of London should do, if it is to serve adequately the needs of the great population at its doors. It may be that a place can properly be found

for teaching which, although good and useful of its kind, falls short of the high standard we have described, and that such teaching should receive university recognition, though it cannot be accepted as university teaching in the full sense of the term. When an understanding has once been reached of what university teaching really is, and of what it can do for a man, we believe students, no matter how poor they may be, will refuse to be satisfied with anything less good than the best. For the moment, however, this understanding is not general; there is confusion in the public mind between a university education and a university degree. People believe that everyone who has the latter has in some way or other also had the former, and that the examinations that have been passed are a proof of it. This belief is, of course, a mistaken one, but it exists; and so long as it is strongly and sincerely held, it will be expedient for the University to continue to grant recognition to work which may be of a lower standard, or which is not done under conditions which guarantee that the standard is equal to its own. If teaching of this kind is recognised, it must be in such a way that it will not hamper the development of the teaching for which the University is able to assume complete responsibility. We shall explain later how we think this may be done (*see* paragraphs 378-385).

2. THE CONDITIONS NECESSARY FOR THE REALISATION OF THE FOREGOING ENDS.

87. We now turn to a consideration of certain pre-existing conditions that must be satisfied if the University is to work in the way it should. We have said that a university works by the co-operation of its teachers and students in study and investigation, a process in which the student is trained to learn in an inquiring spirit, and the teacher is assisted in his endeavours to advance knowledge by the effort to communicate it to others, and by the stimulus which the youthful doubts and enthusiastic labours of his best students afford him. This co-operation, however, cannot be effectively realised unless certain conditions have been fulfilled. In the first place, a sound general education is an indispensable basis of the undergraduate student's work. It is no doubt possible for a con-

Sound general education an essential basis for university training.

siderable amount of knowledge of a specialised kind to be acquired upon a relatively meagre groundwork of general education; but for the ordinary student a point is reached sooner or later, and more often soon than late, where all further advance is hampered, if not entirely prohibited, unless he has acquired the power of accurate expression and orderly thought. These are the two intellectual qualifications which, stated in its most general terms, it is the aim of a sound general education to give, and if they do not exist a large part of the benefits of a university training will be lost. These intellectual qualifications, together with the moral habits acquired at school—diligence, perseverance, regularity, the self-control which enables work to be done in spite of disinclination—have always been of the same value as a fitting preparation for university education. But it is more important now than it used to be, that they should be accompanied by a wide range of study at school, at an age when retentive memory and receptivity of mind enable a large store of information on a number of different subjects to be acquired. Professor Pringle Pattison has recently pointed out¹ that the idea of the old university curriculum was that of a *common* course of studies—a course intended to familiarise the student with the most characteristic products of the human mind in three of its great attitudes, literature, philosophy and science; but that under the combined influence of the lengthening of the school age and the increased demands of professional training, the time for the general or common course of study tends to be reduced to a vanishing point. It may be impossible wholly to make good the loss, and we have much sympathy with Professor Pringle Pattison's plea for the academic protection of philosophy. Where time and money allow of it, a wide course of university study is greatly to be desired; but what we wish to point out here is that the wide range of information to which we have referred, and which may be acquired at school, is not lost or useless, even if the subjects specially studied at the university are rather limited in range, and have special reference to the future profession or occupation of the student. The method and spirit of university study throw back a reflected light upon all the possessions of the mind, and, by

¹ Pringle Pattison, "The Specialising of the Arts Degree," 1911, p. 13.

calling them into the service of awakened intelligence, widen and enrich the effect of the special studies pursued.

Further, the intellectual training and moral discipline given at school are not inconsistent with the inclusion of certain subjects which will be of use in connexion with a subsequent professional training. In this way a constantly expanding university curriculum, in the case, for example, of medicine, may be lightened in its earlier stages with advantage to the best education of the students.

88. It was undoubtedly the intention of the Matriculation examination of the University of London as originally designed, with its large number of compulsory subjects, to ensure that the undergraduates should have received a liberal education of wide range. In the course of time, however, the character of this examination has been profoundly modified. At the present day candidates are required to pass in only five subjects, of which three may be selected from a large number of options, whereas originally they were expected to pass in nine, all of which were compulsory.¹ This change has no doubt been due in part to the growing specialisation of university studies and the inclusion of new branches of knowledge within the university curriculum. Both these facts have encouraged a reduction in the number of compulsory subjects in the Matriculation examination, and the addition of new optional subjects leading up to particular university studies. On the other hand, the range of the secondary school curriculum has itself been greatly widened in recent times by the inclusion of new studies and by new methods of teaching the older subjects. The curriculum of secondary schools receiving aid from the State is required by the Board of Education to make adequate provision for manual instruction, singing, physical exercises, and organised games, while in schools for girls provision is made for practical instruction in domestic subjects. Instruction in science must include practical work by the pupils, and modern languages are now taught largely by the oral method. Some beginning has also been made in applying this method to the teaching of Latin and Greek. For none of these purposes is a general written examination by

Matriculation examination of London University.

¹ University of London. Regulations for Matriculation, Nov. 1839.

itself a suitable test. The result is that whereas the Matriculation examination was originally at least as wide as, or even wider than, the curriculum of the good secondary schools then existing, it is in its present form, and as taken by any given candidate, much narrower than the range of studies now generally adopted.

Two views
as to object
of Matricula-
tion exami-
nation.

89. We think this fact is largely responsible for the growth of the theory that the Matriculation examination should test, not so much the general education of the candidate, as his acquirement of certain kinds of knowledge necessary as a foundation for the particular university course he intends to follow. This theory represents a different view of the purpose of the examination, and if it is justified it leads inevitably to a variation of the examination according to the needs of the different Faculties. The present arrangement of the examination permits this variation though it does not insist upon it, and to that extent represents a compromise between the two views; but the compromise has almost completely lost sight of a sound general education as the end to be secured, and has very little relation to the curricula of secondary schools. That factor seems to survive only in the requirement that each candidate must pass in English, elementary mathematics and a foreign language. We think that the Consultative Committee of the Board of Education, in their recent Report to the Board on examinations in secondary schools, are justified when they say:—"the External examinations usually taken in secondary schools cannot be said to give more than an uncertain indication of the candidates' real mental powers. Some candidates are at their worst in examinations, and in any case when judgment is based on one examination effort, mistakes are sure to be made."¹ This fact alone appears to us to make the Matriculation examination unsuitable for school purposes.

Matricula-
tion exami-
nation no
guarantee of
sound gene-
ral education.

90. The evil effects of an external examination such as that for matriculation upon the work of both pupils and teachers in schools have been admirably described in the Report of the Consultative Committee. They are analogous to those connected with the External university examinations with which

¹ Cd. 6004, p. 80.

we have already dealt. But apart from all the objections to purely external examinations from the point of view of the schools, there is the added objection from the side of the University that an external examination, such as that for matriculation, now affords no guarantee of the liberal education and general training which form a far more important preliminary to university education than the acquirement of a definite standard in particular subjects of study.

91. A similar conclusion was arrived at many years ago by the Scottish University Commissioners of 1889, and is explained in their Report of 1900. After describing the regulations they had made ten years previously with regard to entrance to the University, they say:—

Scottish
University
Commission-
ers' views on
entrance to
the Univer-
sity.

“ We believe this to be the best arrangement that could be made in the present condition of Secondary Education in Scotland. But we should think it far from satisfactory if it were to be regarded as final and permanent. The object of all such arrangements should be to secure that before he begins his University course a boy should have been for a certain number of years under good and trained teaching. This cannot be secured by a mere examination, although an examination at the end of the school course may be a very useful test of his training. We do not consider that either an Entrance examination or a Certificate which can be obtained in single subjects can be an adequate test of school training; and we do not think it desirable that the Junior Classes should be a permanent part of the University equipment. In both these respects, therefore, the regulations we have framed may be usefully revised, when good secondary schools have been made available throughout Scotland. But at present we must be content to guard the graduation classes by an examination test irrespective of school training, and to leave to those young men who are not able to pass it, and who have not the means for preparing themselves at

a good school, the opportunity which the Junior or Middle Classes have hitherto afforded for fitting themselves for the proper work of the University. In the meantime it is obviously of the utmost importance that the Preliminary examination should in practice be conducted with special reference to the object which it is intended, however imperfectly, to attain. But this cannot be secured by any external regulations. It must depend on the good sense and experience of the examiners. To ensure that a uniform standard should apply to all the Universities, we instituted by Ordinances Nos. 13 and 43 a joint Board of Examiners to conduct the Preliminary examination; and for the purpose of combining on this Board the best attainable experience, we prescribed that it should consist not of professors only, but partly of professors and lecturers and partly of additional examiners to be appointed by the University Courts.

“It has been observed that there has been a considerable diminution in the number of University students since these regulations came into force. This was, to some extent, an inevitable result of the introduction of a new system, and it was not unforeseen. If the Preliminary examination, as now worked, does no more than exclude the unfit from the Arts course, it does nothing but good. On the other hand, it is evident that by the adoption of too exacting a standard or too rigid a system of marking, it might serve to exclude from the Universities young men who were fitted to profit by them. This would be a great evil; and its possibility gave us much concern in the preparation of our scheme. But we were satisfied that neither the risk of excessive severity nor that of undue laxity could be effectually obviated by specific regulations imposed on the examining body by Ordinance.

The best safeguards are the judicious selection of examiners by the University Courts, the supervision of the Joint Board, and the guiding and correcting influence of the Senate and the Court. If we had thought it necessary to embody in our Ordinance any direct instruction to the examiners, it would have been no more than an expression of what is plainly implied in the purpose and object of the examination. It must be kept in view that it is not intended as a test of superior acquirement. It is a condition of admission to the University, and it defeats its object if it keeps out anyone who ought to be allowed to come in. It ought not, therefore, to exact from candidates who have been reasonably well taught any special preparation or effort, but ought to be 'such as a scholar of fair ability and proper diligence may at the end of his school course come to with a quiet mind, and without a painful preparatory effort tending to relaxation and torpor as soon as the effort is over.'¹ ²

92. We agree with the Consultative Committee in thinking "that a good general education should be sufficient to secure admission to a University," and provided the spirit and methods of university studies are such as they ought to be, and furnish the student with a purpose and a responsibility in his work through the emphasis that they lay upon the pursuit of knowledge for its own sake, we believe he may be trusted to acquire the necessary acquaintance with those ancillary subjects requisite to the mastery of his main line of study which his school curriculum may not have given him. There is evidence, however, that the length of the school life of the secondary schools of the country, which is increasing under the influence brought to bear in this direction by the Board of Education, will gradually diminish the necessity for this in any but exceptional cases. It is not meant that the teaching of the elements

Some overlapping between school and university work inevitable.

¹ Quoted by Matthew Arnold in "Higher Schools and Universities in Germany," 1874, p. 59.

² Scottish Universities Commission, General Report, pp. xiii-xiv. (Cd. 176.) 1900.

of a subject is improper in a university. The constant growth of specialisation in all directions and the increase in the number of separate departments into which university studies are divided, make it frequently impracticable that every student entering upon his course should have acquired the elements of all the subsidiary branches of knowledge requisite for the adequate pursuance of his main purpose. Incidentally, and for particular students, universities must provide such instruction as may be required in subjects in which some knowledge is needed as an instrument in pursuing higher studies. But the method of study will not be the same as that followed at school, and universities should certainly not continue to give to large numbers of their students instruction of an elementary kind in subjects which they would more properly have learnt at school. We also agree with the Consultative Committee and the Association of Assistant Masters that after the age of 16 some measure of specialisation is to be desired in schools and that it will be a great advantage to their pupils, whether they are going to the University or not, to stay for another two years after passing the general test which the Committee hope to see imposed at about the age of 16.¹ If this longer stay at school were to become more general it would enable those pupils who are going on to the University to make some definite preparation for the Faculty they intend to enter. This appears to have been in the mind of the Consultative Committee when they said that though they thought a good general education should be sufficient to secure admission to the University, they also agreed "that it should not bind the University to admit students indiscriminately to all courses of study. Some differentiation based upon the subjects in which the students had shown reasonable proficiency might well be made when the time came to settle the course of their University studies. Yet even here considerable latitude should be allowed, and it should not be assumed that a student who wishes to follow some particular course of study must necessarily have shown any previous proficiency in it."

Two grades
of school ex-

93. The broad general education which it was the aim of the Matriculation examination as originally planned to secure,

¹ *Appx. to 3rd Report, Association of Assistant Masters, Statement, p. 157 and Q. 8196 ff.*

and the elasticity which is now provided by the large number of options in the existing examination, should be attained by means of two grades of school examination conducted in the interests of the schools and closely related to their curricula.¹ The lower grade taken by pupils about the age of 16 would test the possession of a broad general education, while the higher grade to be taken about the age of 18 would be of a more specialised character. The lower examination, if passed at the necessary standard, should for the present be sufficient evidence of educational fitness for the University, but students with no higher qualification than this would be required during at least their first year to obtain the necessary foundation for more advanced courses by supplementary studies which would not be required of those who had taken the higher school test. Provided the subjects of the examination he had taken were cognate to those of the Faculty he desired to enter,² the higher school examination would admit the student at once to more advanced studies without the interposition of an Intermediate examination except in the Faculty of Medicine, where it would take the place of the Preliminary Science examination. Except in medicine the higher examination would not entitle him to curtail the length of his university course. The nature and range of the supplementary studies required of the student entering on the lower examination would depend, of course, upon the Faculty which he desired to enter. The University should, however, exercise pressure upon students to delay leaving school until after the higher examination has been passed, though for some time there are likely to be many candidates for admission to the University coming from schools that cannot provide suitable instruction beyond the standard of the lower school examination. There are also likely to be from time to time exceptional cases of students who would gain by an immediate transference to university methods of work, but the University should draft its regulations for admission with a view to making the higher school certificate, which should not be

amination
desirable.

¹ *Appx. to 1st Report*, Webb, Qs. 564—93. *Appx. to 2nd Report*, Miss Taylor, Q. 5517. *Appx. to 3rd Report*, Spenser, p. 184 ff. and especially Qs. 8789, 8937—41 and 8956—65.

² *Appx. to 1st Report*, Headlam, Statement § 36, p. 84. *Appx. to 2nd Report*, Busk, Qs. 4948—55; Gollancz, Qs. 5303—4. *Appx. to 3rd Report*, Acland, Qs. 7381—4.

Higher
school cer-
tificate as
normal quali-
fication for
matricula-
tion.

taken till two years after the lower examination, the normal qualification for registration.¹ If the universities of the country were to agree to require the higher school examination as a condition of matriculation, we have little doubt, with the experience of Scotland before us, that the schools would very soon reach the necessary standard.

Whether the University should be responsible for school examinations, or whether it should conduct them as the agent of a central authority responsible for these examinations throughout the country, or whether the central authority should itself conduct the examinations with the assistance of examiners selected from the staffs of the several universities, are questions which have been explored by the Consultative Committee of the Board of Education and are under the consideration of the Board themselves. It does not lie within the terms of our reference to make recommendations as to the best means of attaining the ends which a growing body of opinion desires. We are, however, directly concerned to see a solution of the problem reached which will ensure a proper standard of entry and which, as regards finance, will relieve the University from the necessity of depending upon the fees of its Matriculation examination for the support of its own proper work. Until this necessity is removed the establishment of a school examination in the true sense will be difficult. In any circumstances the influence of the University will ultimately be paramount in regulating the standard of proficiency in special subjects to be required of students for admission to the degree courses in each Faculty, but the secondary schools are similarly entitled to arrange their curricula in the interests of all classes of their pupils, and the school examinations must be based on these curricula. The central education authority, on the other hand, is concerned to see that its grants to the schools and to the universities are effectively used, and in the ultimate issue it is that authority which must provide for the co-ordination of secondary schools and universities, and must give the necessary assurance to the universities that the pupils seeking admission to their degree courses have reached the required standard of education.

¹ *Appx. to 3rd Report, Acland, Q. 7389; Association of Assistant Masters, Qs. 8241-3; Spenser, Qs. 8949-55.*

94. As first steps in the direction indicated the University should cease to admit pupils in schools to its own examinations, including that for matriculation, and no student should be registered as matriculated until he has attained the age of 17. These recommendations are almost identical with the conclusions that were independently reached by a strong Committee of the British Association (Section L), which submitted its final report to the Association in 1912. After considering a large body of evidence the Committee expressed the opinion:—

- “(1) That students should not be prohibited from taking the Matriculation examination or its equivalent as soon as they are 16, but they should not ordinarily be allowed to enter a university for a degree course below the age of 17.
- (2) Universities should not provide instruction for the purpose of preparing candidates for matriculation.
- (3) Students for degree courses should not be admitted to universities or their constituent colleges until after they have passed the Matriculation examination.
- (4) A university examination subsequent to matriculation should not be allowed to become a school examination.
- (5) There should be two school-leaving examinations conducted conjointly by the universities or by a representative examining board:—
 - (a) Suitable for pupils of about 16 years of age;
 - (b) Suitable for pupils between 18 and 19 years of age.

The earlier examination (a), representing a good general education, and of the same standard as the present London Matriculation, or similar examinations, should be accepted for matriculation and for admission to professional courses as those examinations are at present.

The later examination (b), of the same general standard as the Intermediate, B.A. or B.Sc. examination of the University of London, but not necessarily of the same character or substance, should not be designed primarily for those who intend to proceed to a university, and should admit of some degree of specialisation. Under certain conditions, it might be accepted by universities as excusing students from any further examination between their entrance into the university and their degree examination. Only those pupils who have passed the more elementary examination (a) should be admitted to the higher examination."¹

Evidence as to age of entry.

95. We have been strongly urged by the Association of Head Mistresses to make 17 the minimum age of entry to the University for girls, and we have been impressed by the reasons put forward in support of the proposal. We think that boys also are not, as a rule, fit to begin university studies, as we understand them, until they are over 17. This opinion is endorsed by Mr. Sidney Webb, Dr. Bennett, the Chairman of Convocation, Mr. A. H. D. Acland, the Association of Assistant Masters in Secondary Schools,² and by the Principal of the University,³ who thinks indeed that "Matriculation examinations should be designed to suit the capacity of average pupils not less than 17 years of age." We agree with this view.

Matriculation examination retained for exceptional cases.

96. It is obvious that some form of Matriculation examination must be retained for those unable to approach the University through the normal avenue of the secondary school. This examination should be designed for students of the age of 17, and for the present, at any rate, its requirements might differ somewhat in the case of the different Faculties, but we agree with the Consultative Committee that the interests of the

¹ Proceedings of British Association, Dundee, 1912, Section L. Final Report of Committee on Overlapping between Secondary Education and that of Universities and other places of Higher Education.

² *Appx. to 1st Report*, Webb, Q. 535. *Appx. to 2nd Report*, Bennett, Q. 3149; Busk, Qs. 4948-55. *Appx. to 3rd Report*, Acland, Qs. 7389-424; Association of Assistant Masters, Statement, p. 157, and Q. 8192 ff.

³ Miers, Address to Educational Science Section of British Association, 1911, p. 5.

secondary schools require that the test of general education, *i.e.*, the lower school examination, should be applicable a little earlier than this. The more thorough and systematic intellectual training given by the secondary school furnishes in itself a justification for a small differentiation in the age of admission to the examination.

97. Another class of student always likely to be represented in a modern university remains to be considered. We refer to students of mature age, who discover a desire or need for a university training after they have already spent some years in the business of life. Provided a student of this kind is prepared to submit himself to the discipline of a complete university training under professors of the University, it is unreasonable and useless to expect him to return to school studies in order to pass the Matriculation or some equivalent examination; moreover, to do so tends to lower the standard required of other students. Such exceptional cases would in our view be properly dealt with if the Faculty to which he desired admission were to satisfy themselves, by such means as the Senate might approve, that he was qualified by his attainments and ability to take a full course for a university degree.

Matricula-
tion test for
older
students.

But there are no grounds for granting this privilege to students who seek to obtain a degree solely by examination or by attendance at courses of instruction given by teachers who are not teachers of the University. Our object in advocating this special arrangement is not to make it easier for a student of mature age to obtain a degree, for this would be a preferential treatment to which he can make no claim, but to facilitate his access to the best training the University can offer.

98. A sound general education, however, is not the only necessary condition of the undergraduate student's work. In the more intimate classes of the University, of the nature of the German seminar, where the students learn to work with their teacher, and acquire the methods by which systematic investigation is undertaken, all the students should be university students, that is, students whom the University would be prepared to admit as candidates for its degree.

More inti-
mate work
limited to
university
students.

This is of great practical importance, because it is a hindrance to the best university work if those whose aptitudes have not been trained and whose minds have not been informed by instruction in accepted knowledge are combined in the same classes with those who are qualified for work of this standard. The teaching is inevitably brought down to their level; besides, ill-prepared students cannot be inspired with the eager integrity of intellectual purpose which is the first and most essential characteristic of the scholar, a spirit which in many cases is more easily awakened by the consciousness of its presence in others than by anything the teachers can do. Unless this condition is observed it will be impossible to secure the homogeneous body of students which forms the necessary basis of a real university. If it is absent the work of the professors is dissipated and discouraged, and the progress of the undergraduates retarded.

Causes of
low standard
of education
on admission.

99. We recognise that a considerable number of the regular day students at present in the Schools of the University are not qualified for registration as undergraduates of the University, and that the homogeneity of the university classes which we desire to see established does not for the moment exist. The chief cause for this is to be found in the inadequate provision for secondary education in the country; but we believe that when the universities are prepared to leave secondary education to the schools, the schools will rise to the standard which the universities demand. Other causes have contributed, and one of the most important is the necessity the colleges have been under, up till now, of providing professional education for students who did not come with the intention of taking a university course, or were not sent to them for that purpose. The Engineering departments of the Imperial College (*i.e.*, the City and Guilds College), of University College, of King's College, and of the East London College, and the Mining department of the Imperial College (the Royal School of Mines) have all suffered in this way. The department of Pure Science of the Imperial College (the Royal College of Science) has been obliged to educate as best it could a number of students sent there by the Board of Education, though the Board have not required them to matriculate previously, or, until quite recently, to furnish

any evidence whatever of a general education. We are aware that the action of the Board has been justified on the ground that the Royal College of Science was not founded or maintained as a university institution, but as a college intended originally to encourage students from evening schools and classes to continue their study of science, and to become in turn teachers in institutions of the kind from which they had come. These conditions, however, and the needs connected with them are now passing away; and the presence of large numbers of students who have had but an imperfect general education is a serious weakness in a college which is now a School of the University, and is directed by its Charter (granted in 1907) to "give the highest specialised instruction, and to provide the fullest equipment for the most advanced training and research in various branches of science, especially in its application to industry."

100. Steps should be taken to remove this anomaly as rapidly as possible, and we understand that the Governors of the Imperial College are already moving in this direction. If the University finds it inevitable for some time longer to provide courses of instruction for students who are not qualified on entrance to read for a degree, these courses, except perhaps the general lectures, should be separate in all respects from those followed by the undergraduates. In this way a minimum standard recognised by the University would be ensured for the students in the degree classes, and the standard of the degree to a greater extent secured if not raised. We refer in particular to the courses intended for students reading for a first degree. There is not the same objection to the inclusion of other students in classes of a more advanced or post-graduate type, for, as Mr. Webb pointed out, there is no practical danger that students will desire to take courses of this kind unless they are competent to profit by them. This is far from being the case with undergraduate work. The Board of Education should support this policy in the case of the department of Science in the Imperial College by requiring that all candidates for Royal Scholarships and Free Studentships should be qualified for registration as undergraduates of the University. If this condition were imposed

Royal Scholarships and Free Studentships.

it might be convenient to the Board, as it certainly would be desirable in the interests of the Imperial College and of a careful consideration of the claims of individual candidates, that the responsibility for awarding the Scholarships and Studentships should be entrusted, subject to such further conditions as the Board might think well to impose, to the University under the general powers described below. There can be no difference of opinion as to the wisdom, in present circumstances, of leaving, wherever possible, the selection of university scholars and free students to the teachers under whom they are going to study.

We are aware that a considerable number of the existing Scholarships and Free Studentships are won by candidates belonging to the industrial classes who enter for them direct from technical schools and classes, and that our present proposals might deprive some of them of a stimulus and a reward which is now open to them, if, as is possible, they were unable to satisfy the required standard of preliminary education. But these students could now be better provided for at other institutions, of which there are many in the country, and money should be forthcoming for the award of the necessary scholarships to enable them to continue their education at one of these. The problem is indeed one which would have arisen sooner or later, independently of the appointment of this Commission, for it is the outcome of the grant of the Royal Charter to the Imperial College, and of the arrangements which were made at the time when the Board of Education transferred the management of the Royal College of Science to the Governing Body then set up.

101. Although the separation of students qualified by general education for university study from those not so qualified is a necessary condition of the best university work, and should therefore be the rule in all class and laboratory work for which the University is fully responsible, we are not prepared to recommend insistence on this rule in the case of courses to which the University may grant recognition, but for which it is not financially or educationally responsible. The separation is always desirable, but in these cases we should be prepared to acquiesce in less stringent conditions.

102. Besides the necessity for a sound general education for all university students, and for homogeneity in the classes they attend, a third condition of satisfactory university work is that the teaching of the University in its several Faculties should be concentrated as far as possible in one place. We think the aim should be to bring the Constituent Colleges and University Departments together in one part of London, and group them round the central buildings of the University when they are not actually within its walls. Complete centralisation will not be possible. We do not suggest, for example, that the Imperial College of Science and Technology should be removed from South Kensington. But the policy to be kept in view and followed as opportunity occurs ought to be that of centralisation, and not that of dispersal in different parts of London.

Advantages
of centralisa-
tion.

In our Fourth Report we have explained the necessity for the provision of central buildings for the headquarters of the University, principally because of the importance we attach to the recognition of the University as a great public institution. But what we have chiefly in view here is rather the academic importance of centralisation, which we think is necessary if the University as a whole is to exercise its full influence upon all its members, and especially upon its students. Both University and King's Colleges made it a condition of incorporation that the University should, as far as its means and other duties permitted, maintain and develop the college as an institution in which wide academic culture might be secured by the variety of the subjects taught in different Faculties. As they were consenting to incorporation in a University which consisted of a large number of separately managed institutions, the stipulation they made was a wise one, and perhaps all that could be insisted on at the time, but it is not all that can be done in future with the same end in view. London, as a whole, cannot be made a university town like Oxford or Cambridge, where the University dominates the town and may consist of many separate colleges without losing its unity and identity. But we think it is quite possible to create a university quarter in London, in which the university life and interests would grow and develop, and students and teachers alike would find themselves in the atmosphere of a great seat of learning.

In addition to the regular professional and degree courses of the existing Faculties, new developments of learning and the exploration of questions lying on the boundaries that have hitherto divided different subjects of study lead from time to time to new groupings of subjects into courses to meet new requirements. The new department of Home Science and Economics, and the department of Imperial Studies which has recently been proposed, are examples of what we refer to, and there will doubtless be more such developments in future. So long, however, as the work of the University is dispersed in different parts of London, it will be difficult to arrange for the establishment of new departments of studies by regrouping the existing teachers, though the power to do this is necessary if the University is to deal effectively with the demands of growing knowledge. The difficulty of making use of existing teaching and equipment will in turn lead to the establishment of separate institutions with independent administrative machinery and probably independent finance. Thus the present dispersion of effort and complication of government will constantly tend to increase. We think this is a mistake which would no longer be possible if the work of the University were properly organised, and a wide range of teaching and study, including practically all the highest teaching in Arts, Law, and Economics, and a large part of the teaching of pure Science, were centralised, and carried on in such close proximity as to constitute a university quarter in London. All new developments of learning would then naturally be organised within the University, with greater efficiency and economy than in separate institutions. They would share from the first the spirit and traditions of the University, and would contribute to its development.

Geographical difficulty.

103. As against such centralisation it may be said that the great size of London raises a geographical difficulty which can be met only by providing separate colleges in different parts of the metropolis. The waste of time, the cost, and the strain of daily travelling, are great, and we do not desire to minimise them, but the question is whether they are avoided by the only alternative to centralisation which is practicable. University Colleges, adequately staffed and efficiently equipped, and providing a wide enough range of study to secure

academic culture for the students, are very expensive, and are not required for any large proportion of the population. Not more than three or four such colleges could probably be provided in London, or would be required for the students. Elementary education, and, to a large extent, secondary education, must be provided locally, and both technical and other higher education are required for evening students near where they live or work. But university education for those who can give their whole time cannot be provided in close proximity to the homes of more than a very small number of the students, because the proportion of university students to the population is so small that the area from which each college draws its students must be large. In London the students who attend a University College in the daytime may be divided into three classes. Those who come from a distance and must live in London during the University terms; clearly there is no difficulty with regard to these students. They can live where they like, and if they do not choose to live near the University they can select a suburb which is easily accessible by rail. Secondly, those who live outside London and travel daily; these students also can probably go to a central University as easily, and possibly more easily, than to a college intended for some less central district of London. Thirdly, there are the university students who live at home in London. This is the only class of students who presumably would be more conveniently provided for by colleges established in different parts of London. But only a certain number of even this class will be really near the college, and direct means of access by rail or otherwise to the central part of London will in many cases make it easier and quicker to go a longer distance to a central college than to attend a college expressly meant for their district. Moreover, many other considerations affect and complicate the question; and, as a matter of fact, it is found at present that London students are only to a small extent influenced in their choice of a college by its situation. The scale of fees probably affects the question more than anything else. But the subjects it is desired to study and many other things also have their weight. On the whole we think there is practically no geographical problem in the case of full-time day students of the University; but even if there is some inconvenience to a few, we think the advantages of cen-

tralisation more than counterbalance any inconvenience that could be obviated by the establishment or retention of University Colleges in various parts of London. We therefore think that the policy of the University should be to concentrate its teaching in one part of London as far as circumstances allow. The creation of a university quarter would lead to economy in administration, to increased co-operation between different departments of study in the interests of new lines of work, to greater intercourse between students and between teachers, and it may be hoped it would also lead to a better public understanding in London of the University and its work. The University would begin to awaken general interest, and this interest would be followed by greater private and public support.

University
hostels.

104. There is, however, a fourth condition of sound university work. We refer to the need for providing healthy and interesting conditions of life for the students outside the University buildings. These conditions are more difficult to secure in great cities than in small towns, but for that reason the city university must care the more for them. When the modern universities were founded, little attention was paid to this aspect of their life, but experience has convinced them all of its paramount importance. English school education has long laid great stress upon the formation of character, and the importance of this is recognised with increasing force throughout our whole school system, elementary as well as secondary. We have a strong belief as a nation in the value of character, and this belief must not be forgotten in the planning of our modern universities. "The State," as Lord Rosebery said, addressing the University of Glasgow, "gives the university peace, protection, possibly endowment; in return, the university gives the State, or should give the State, picked men, and now also picked women. . . ." The university, he added, "is no doubt the source of supply for the learned professions, but outside and beyond it gives citizens not necessarily learned, who by training and by character influence their generation, and maintain directly or indirectly the tradition of the State. The work of teaching arts and science is going on everywhere, but a university such as this should aim at producing character, indirectly, perhaps, but none the less effectually." The needs

that led to the foundation of the modern universities were, as has been indicated, practical and intellectual, and these needs remain with a growing sense of their urgency; but the universities could not be contented with a one-sided development in their students.

The intellectual training of the students suffers if they become isolated units when they leave their class-rooms. The Board of Education have gradually been increasing their pressure on the universities to provide hostels for the students sent there to be educated and trained as teachers, and have made large grants towards the initial cost of buildings, no doubt because they have realised that good teachers must be something more than intellectual machines. They have also adopted the policy of urging that students in training should not be in a majority in any hostel. In a city like London, where the centrifugal tendencies are so great, it is even more necessary than elsewhere that the University should encourage the erection of hostels for as many of its students as possible. The hostels should mostly be placed in the suburbs, where fresh air and playing fields are to be had, and they should be so arranged as to attract students and junior teachers from different Faculties and from different institutions. We think the hostels should not be used as a means of strengthening the collegiate spirit, but, on the contrary, that they should be under the general supervision of the University, and should serve to promote a university *esprit de corps*. In a university of the kind we have in view, where the financial control will be centralised and the educational administration in the hands of the University Faculties, the loyalty of the students to their college should be subordinate to, if no less than, their loyalty to the University. We do not propose that the University chest should bear the burden of maintaining these hostels; but we are confident that the University could successfully appeal for special funds in support of a comprehensive scheme of the kind we have outlined, while some assistance could, no doubt, be obtained from the Board of Education towards the initial cost of those portions of the buildings which would be assigned to students in training as teachers. No doubt all University hostels would not be intended to serve the needs of students irrespective of their Faculty or place of study. The theo-

logical colleges, for instance, are nearly all residential, and the students in them must almost necessarily be segregated, though even hostels for theological students might well be open to other students. Provision already exists for small hostels near hospitals, where medical students holding hospital appointments can live during the tenure of their posts. These are exceptional cases, and need not interfere with the general policy of the University.

University
and College
Societies.

105. The majority of the students in London, however, will probably always be living at home, and for these in particular means must be found for intercourse with their fellows. They would gain immensely from the existence of a number of hostels in the suburbs, for the playing fields would be there, and there they would learn to know, as the guests of their friends in residence, the social side of university life. But this is not enough. The University should encourage the formation of central University Societies for registered undergraduate and graduate students of both sexes with certain rooms and halls to be used in common. We contemplated that the central University buildings referred to in our Fourth Report would provide the necessary accommodation for this purpose, as well as headquarters for the Officer's Training Corps. In these buildings the Students' Representative Council and other University societies could meet regularly, and the College societies could also meet from time to time in common session. In this way the students scattered through London for their studies would have a centre for common intercourse, while some of them would meet again under the university roof because they were residents in the hostels forming the outer ring of university institutions.

Conditions
of appointment
of university
teachers.

106. We pass now from the necessary conditions of the students' life and work to those which particularly affect the teachers, and which must exist if the University is to have the services of the best teachers, and to ensure the continuance of work of the kind we have described.

In the first place, it is necessary that the terms of their appointment and employment should be suitable. Experience has shown that the University cannot be certain of securing suitable conditions for the teachers when they are paid for by

bodies over which it has no financial control. The first necessity is therefore that the University should provide its own teaching, by which we mean that it should appoint, pay, pension, and dismiss its teachers, and not leave these primary duties in the hands of independent corporations. With this control in its hands the University may be trusted—

- (i) to choose its staff for individual excellence from the widest possible field;
- (ii) to give them such remuneration including superannuation and such conditions of tenure as will free them from the pressure of material anxiety;
- (iii) to arrange that their teaching duties leave ample time for their own individual work;
- (iv) to arrange that the libraries, laboratories, and other means of assistance provided for them are such as to permit of advanced work and research; and
- (v) to give them a voice in the selection of their colleagues.

107. The Senate has given a clear proof that this is the present policy of the University in the rules it has adopted for its own guidance in granting the status of University Professor or Reader and in the selection of "Appointed Teachers."

Action of
present
Senate.

The University has already made the attempt to establish a body of university teachers of the first rank by granting the title of University Professor, or University Reader, to selected teachers in its Schools; but the result has only confirmed us in the conviction that the University could not rely upon a procedure of this kind as a means of securing an adequate and properly distributed university staff. In some cases the appointing bodies have objected to the conditions laid down by the University; in others they have refused for their teachers the status offered them; and the governing body of one of the most important Schools refused altogether to furnish the University with any particulars as to their staff, or to accept the status offered to certain of their teachers on the strength of their reputation in the scientific world. Quite apart, however, from these difficulties, the experiment, interesting and important as it has been, has revealed the fatal inherent

weakness, that there is no possible means of bringing a university staff thus recruited into a due relation, as regards either its numbers or its distribution, to university needs. The University might find itself supplied with half a dozen professors of one subject and without a single professor or reader in another equally important branch of knowledge. One School might have the advantage of a University Professor at the head of most of its departments, and another might have none. University organisation cannot proceed on these lines, and the difficulties we have described can be removed only by placing the appointment of all teachers of the University in the hands of the University itself, or at least by giving the University an effective voice in their appointment. Arrangements might be made, for instance, under which the University and the governing body of a hospital would appoint the same person to a professorship or lectureship, and also to a position on the hospital staff. We shall explain later the arrangements we propose for the recognition of institutions whose teachers are not appointed and paid by the University (*see* paragraphs 376 ff); but we are of opinion that no teacher appointed by an independent body should be a teacher of the University. In this way alone will the University be provided with teachers who, like the undergraduates, will form a homogeneous body in respect of their qualifications and aim. The University will then have secured a standard, not only in its students attending undergraduate courses (as explained above), but also in the teachers under whom they will study. We believe that if these two standards are maintained, the standard of the degree will follow inevitably. Hitherto the tradition of the University has been to judge the standard of an examination by the percentage of passes or failures, a tradition inherited from the old examining University, where no other index was possible. The standard of a teaching university, however, cannot be measured in this way, for, if it is working properly, students will not present themselves for examination until they are ready, and the percentage of failures ought in consequence to be very low. The only means of maintaining a standard in a teaching university are the rigid exclusion of students who are unfit for university studies, and the existence of a body of highly qualified and productive teachers, organised in departments adequately equipped.

108. If the University is so organised as to provide the conditions necessary for its proper working in accordance with the principles we have described, the teachers of the University ought under proper safeguards to have control of the education and examination of their students, and the University ought to be so constituted as to give it them. It will be explained how this should be done in the next Part of our Report. The Professorial Board of University College say in the memorandum presented to us "that to secure freedom of the University teacher to teach as he thinks best, and not by a hard and fast syllabus, should be in the forefront of the problems to be solved by the present Commission. If freedom can be obtained for the teacher freedom for the learner will follow,"¹ and we think the Professorial Board are right.

Teachers' control over education and examination.

109. The control of education and examination, in their executive aspects, should be entrusted to the teachers of the University, but they should not determine its educational policy, though that policy should be determined in the light of the expert advice which the teachers are peculiarly fitted to give. The control of finance, on which educational policy must in the ultimate issue depend, should be vested in a small Council or Senate acting as the supreme executive body of the University. By control of finance we mean a great deal more than the allocation of such sums of money for educational purposes as have been in the past or may be in the future at the free disposal of the University. If the University is to appoint and pay the teachers attached to the colleges which are in close connexion with it, it must obviously also have control of the whole finance of these institutions. The essential principles of incorporation exhibited in the Acts of Parliament transferring University and King's Colleges to the University must be extended to all the centres in which university education as we have described it, will be given. "If the teaching in the various Faculties is to be both powerfully and economically organised, we believe," say the signatories of Report A of the Academic Council, "that college organisation, instead of dominating, must be subordinated to Faculty organisation, due regard being had of course to the need for supplying the various parts of the great

University control of finance.

¹ Appx. to 3rd Report, Appendix VII, p. 413.

area of London with educational facilities."¹ Report A points out with cogency that the funds available for higher education in London have been, and still are, manifestly inadequate; and we may add that they can never be so abundantly forthcoming as to make it unnecessary to husband them to the utmost and to avoid extravagant duplication. Economical administration of limited funds is inconsistent with financial rivalry between independent institutions. University education can never be supplied at a profit; and, in the interest of the public, who must furnish so large a proportion of the necessary funds, it is essential that there should be unified financial control of all that teaching for which the University can properly make itself educationally responsible. For these reasons we think that the control of finance should be placed in the hands of the University.

3. THE GOVERNMENT OF THE UNIVERSITY.

Supreme
governing
body or
Court.

110. The supreme governing body or Court must, in our opinion, be of different constitution from the present Senate, which is modelled largely on the type of the constitution of the two older universities. These universities are not dependent upon public funds for their maintenance, and their history makes their government by teachers and graduates reasonable, or at least explains it. The city university is in an altogether different case, and we agree with Report A of the Academic Council in the belief that the modern city university cannot flourish if the population it mainly serves is indifferent to its welfare. "London," says that Report, "will not regard the University of London as an integral part of the City until the University is willing to entrust its supreme guidance to a body composed mainly of citizens." Several important witnesses² have also given evidence in support of the plan of placing the supreme power in the hands of a widely representative Court, while the only arguments advanced against it are those contained in Report B, which was signed by seven members of the Academic Council. These members think that "a body of the size and heterogeneous character proposed would have no

¹ *Appx. to 2nd Report, Academic Council Report*, § 50, p. 281.

² *Appx. to 1st Report*, Rücker, Q. 709 ff.; Foster, Statement § 38, p. 139, Qs. 1994-8, 2003-8; Reay, Qs. 2071-4; Roscoe, Statement § 4, p. 174, Qs. 2503-6. *Appx. to 2nd Report*, Starling, Qs. 3291, 3299.

real power," which would in fact rest entirely with the small executive. They further think the executive "could not take adequate cognizance of the complicated problems" of university education in London. We believe the first of these arguments is based upon a confusion of thought between legislative and executive functions. A large heterogeneous body cannot transact executive business, and for this purpose it would be powerless because inefficient, while the power would rest, as it ought to rest, with the executive body. But it will be able to make the voice of its constituencies heard in the general plan of organisation and policy, by its control over the University Statutes, over the inclusion of institutions as Constituent Colleges, and over the recognition of institutions as Schools of the University. Here its power is complete and final. Nor are we impressed by the argument that a small executive would be incapable of handling the manifold problems of university education in London. The Senate, as we think of it, will have the control of finance, and through finance of the details of educational policy; but it will not act without advice, and it will have all the facts presented by those best able to explain their significance before coming to a decision. We do not think it necessary that each Constituent or incorporated College should have a representative on the executive body, as urged by one witness,¹ if means are provided, as they should be, for the delegacies of these colleges to have direct access to the Senate, and for ensuring that the Senate shall not act in any matter affecting a Constituent or incorporated College without giving the delegacy in charge an opportunity of being heard. The presence of representatives of these colleges on the Senate, with a power of voting, would not only increase its size unduly but might encourage the continuance of historic jealousies, and detract from the judicial temper which should animate the chief executive organ of the University. For these reasons we shall propose in the following Part of this Report the establishment of a Court and a Senate so constituted as, in our opinion, to be able to achieve the end we have in view.

Relation of
Court to
Senate.

111. The Senate should not be in the main a representative body, and should not, as to any large part, consist of teachers.

Constitution
of Senate.

¹ *Appx. to 2nd Report, Miss Edgell, Qs. 3606—11, 3629—33.*

The teachers who have seats upon it should not be so elected as to represent particular studies or particular institutions but merely to ensure a mutual understanding between the men of affairs and the men of learning. It is of the utmost importance that the Senate should be so constituted as to be able to work out a carefully considered policy for the maintenance and development of university teaching in the metropolis. Experience has shown that a body made up of representatives of a number of different interests is incapable of formulating a united plan of action, and all the members of the new Senate should therefore as far as possible be appointed for their personal qualifications as men of business knowledge and administrative capacity. With this end in view a large proportion of its members should be nominated by the Crown and not elected by other bodies, but all the members would be members *ex officio* of the Court. The view has been expressed¹ that the Court "should be able to turn out a Council"—by which is meant the body we have named the Senate—"of whose policy it disapproved." We should agree that this ought to be so if the executive body derived all its powers and functions from the superior body. We contemplate, however, that in London, as in the provincial universities, there should be a differentiation of function established under the Statutes and based ultimately upon the obvious fact that administration needs continuity of purpose and control, and the expert judgment which long-continued and constant work in the administrative field alone can give. An executive committee which was liable to dismissal at any moment would tend to lose its initiative, and might spend the greater portion of its period of office in learning its business. We think the legislative control which we propose to vest in the Court, and the means it will possess of bringing public opinion to bear upon university policy, will effectually prevent friction, while it will avoid the danger of sudden reversals of policy, which are more fatal in educational matters than in other departments of human activity.

Academic
Council.

112. We shall also describe in Part III of our Report the constitution and powers of the Academic Council. This Council should be a body of university teachers, to which the

¹ *Appx. to 2nd Report*, Pollard, Note VIII, p. 301.

Senate might delegate such executive functions as it would not be wise to delegate to the Faculties separately. Its main duties, however, would be advisory, and it should be so constituted as to ensure that the Senate should have before it the opinion of the University Professoriate as a whole, expressed through its appointed representatives. The Senate should receive a report from the Academic Council before coming to a decision upon any educational question affecting the University as a whole which may arise—whether through an appeal by a Faculty; or from a delegacy entrusted with the management of a Constituent College or a University Department; or otherwise.

113. Finally, we think that if the University can be reconstituted so as to provide for all the things which we have described, as we believe it can be, it should be endowed, under the necessary Act of Parliament, with much greater freedom of government than the present University possesses, and with this end in view the Statutes should be simple and few, leaving as many things as possible to be settled by regulations and byelaws of the University. Its various Councils and Committees, Faculties and Boards of Studies, should have freedom to delegate their functions and duties in a very broad way. It should have freedom to arrange its teachers into such Faculties and to confer such degrees and other distinctions as it shall from time to time determine, subject only to a general power of appeal to Your Majesty's Privy Council by persons or bodies affected.

Greater
freedom of
government
desirable.

114. We cannot expect or hope that all the teachers and institutions at present connected more or less closely with the University will be able or willing to form a part of the University in the intimate way we have foreshadowed. For some a looser connexion must be provided; and the recommendations we shall make to this end will enable us to deal with another problem, *viz.*, that of the External student. But if an organisation can be devised for the best Colleges and Schools, which would apply to them, as far as the circumstances allow, the principles which govern the organisation of universities of the professorial type everywhere else, the provision which at present exists in London for "real university teaching and for the advancement of science and learning

Looser connexion of
other institutions with
University
External students.

will be freed from the restrictions which now tend to reduce it to a level with much that is not of the same kind. A standard will have been established to which institutions which are for the moment excluded may ultimately be raised. The same degree may be obtainable by students in both kinds of institution; but the difference in the training that has preceded it in the two cases will be so obvious that the degree will tend to take its proper place in public estimation. No public teaching institutions will be excluded from the inner circle of the University that are able and willing to adopt its methods and ideals, and to entrust their educational policy to its management, unless indeed they are excluded by distance from a real share in its common life. If these last are strong enough they should become independent universities. But if they are not strong enough to stand alone they still have no claim to be included in a university with which they cannot become really one through the co-operation of either students or teachers.

No compromise possible on the essential conditions of university organisation.

115. So strongly indeed do we hold the view that the method of working we have described, and the conditions upon which alone such work can be done, are essential to the existence of a real University in London, and that such a University is a national and imperial as well as a merely local need, that it would be better not to interfere at all with the existing constitution than to attempt anything less fundamental. Any reconstruction worth the making must provide the University with at least a nucleus which may safely be trusted to grow and develop. The University will then avoid the gradual lowering of standards which has already brought it twice into a critical situation. We mean, of course, standards of teaching, not standards of examination.

Educational Publications of the Government of India.

Quinquennial Reviews.

- Progress of Education in India, 1892-93 to 1896-97. Third Quinquennial Review. By J. S. Cotton. Rs. 3.
- Progress of Education in India, 1897-98 to 1901-02. Fourth Quinquennial Review. By R. Nathan, C.I.E. 2 Vols. Rs. 7.
- Progress of Education in India, 1902-07. Fifth Quinquennial Review. By H. W. Orange, C.I.E. 2 Vols. Rs. 5-8.
- Progress of Education in India, 1907-12. Sixth Quinquennial Review. By H. Sharp, C.I.E. Vol. I. Rs. 4. Vol. II. Rs. 2.

Reports.

- Report on the conference on the Education of the Domiciled Community in India, July 1912. Re. 1.
- Report on the enquiry to bring Technical Institutions into closer touch and more practical relations with the Employers of Labour in India. By Lieutenant-Colonel E. H. deV. Atkinson, R.E. and T. S. Dawson. As. 10.

Occasional Reports.

- No. 1. Rural Schools in the Central Provinces. By H. Sharp. Re. 1.
- No. 2. Vernacular Reading Books in the Bombay Presidency. By T. G. Covernton. (*Out of print.*)
- No. 3. The Educational System of Japan. By W. H. Sharp. (*Out of print.*)
- No. 4. Furlough Studies. By J. Nelson Fraser, H. Sharp and G. W. Küchler. Rs. 2.
- No. 5. Training of Secondary Teachers. By H. R. James, H. Sharp and J. Nelson Fraser. As. 8.

Annual Narratives.

- Indian Education in 1913-14. Re. 1-8.
- Indian Education in 1914-15. Rs. 2.

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